

## **REMARKS**

Claims 1-69 are pending in the present application. By this Response, claims 5, 28 and 51 are amended to be in independent form and claims 1, 2, 3, 18, 24, 25, 26, 41, 47, 48, 49 and 64 are amended for clarification purposes by reciting that the data packet is formatted for the protocol utilized by the system area network. These amendments are only a clarification in that it was implicit in the originally filed claims that the data packet was formatted in the protocol utilized by the system area network since the data packet was sent/received via the system area network fabric. Thus, the amendments to the claims do not add any additional features and do not add any new matter.

Reconsideration of the claims is respectfully requested.

Amendments are made to the specification to update the information for the cross-reference U.S. Patent applications. No new matter has been added by any of the amendments to the specification.

### **I. Telephone Interview**

Applicants thank Examiner Huynh for the courtesies extended to Applicants' representative during the April 14, 2004 telephone interview. During the interview, Applicants' representative discussed the above claims and their distinctions over the alleged combination of references set forth in the Office Action mailed January 15, 2004. Examiner Huynh agreed that the Watson and Jason references appear to teach an opposite operation from that recited in the pending independent claims. Moreover, Examiner Huynh expressed her understanding of the reasons why it would not be obvious to use the PCI protocol mentioned in the James reference with the network systems of Watson and Jason. Examiner Huynh requested, however, that Applicants' arguments be presented in a written response to the Office Action. The substance of the interview is summarized in the following remarks.

## **II. Allowable Subject Matter**

Applicants thank Examiner Huynh for the indication of allowable subject matter in claims 5, 6, 28, 29, 51 and 52. By this Response, claims 5, 28 and 51 are amended to be in independent form. Thus, it is Applicants' understanding that claims 5, 6, 28, 29, 51 and 52 now stand in condition for allowance. In addition, Applicants respectfully submit that, for the reasons set forth hereafter, the remaining claims are also directed to allowable subject matter and that the application is in condition for allowance.

## **III. 35 U.S.C. § 103, Alleged Obviousness Based on Watson and Jason**

The Office Action rejects claims 1-4, 8-18, 20-27, 31-41, 43-50, 54-64, and 66-69 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Watson, JR. (Pub. No US20020026517) in view of Jason et al. (U.S. Patent No. 6,636,520). This rejection is respectfully traversed.

As to independent claims 1, 18, 24, 41, 47 and 64, the Office Action states:

As per claims 1, 25 and 48<sup>1</sup> Watson discloses a method for processing foreign protocol requests across a system area network, the method comprising:

- a receiving a request from a device utilizing a protocol which is foreign to a protocol utilized by the system area network; [0004-0005]
- encapsulating the request in a data packet; and [0005], [0041], wherein the data requests encapsulated in a tunneling protocol, it is inherently encapsulate into data packet)
- sending the data packet to a requested node via the system area network fabric. [0005]

Watson discloses all the limitations as above except Watson does not explicitly disclose a protocol which is foreign to a protocol utilized by the system. However, Jason discloses a tunnel transports a packet using a foreign protocol across a network by encapsulating the packet into a tunnel format. A tunnel encapsulates a packet and transports the encapsulated packet across the network using the foreign protocol. (col.4, lines 41-58)

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<sup>1</sup> While the Office Action refers to claims 25 and 48, it is Applicants' understanding that the Office Action intends to reference independent claims 24 and 47 since a later rejection (on page 3 of the Office Action) is made with regard to claims 2, 25 and 48.

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Jason's teaching into Watson's method so as to improve data packets security across network.

(Office Action dated January 15, 2004, pages 2-3)

As per claims 18, 41, 64, Watson discloses a method for processing foreign protocol requests across a system area network, the method comprising:

- receiving a data packet from a system area network fabric;[0004]
- determining that the data packet contains an encapsulated foreign protocol transmission; [0041]
- decoding the data packet to obtain the foreign protocol transmission; and [0041]
- sending the foreign protocol transmission to a requested device. [0005]

(Office Action dated January 15, 2004, page 6)

Claim 1, which is representative of claims 24 and 47 with regard to similarly recited subject matter, reads as follows:

1. A method for processing foreign protocol requests across a system area network, the method comprising:
  - receiving a request from a device utilizing a protocol which is foreign to a protocol utilized by the system area network;
  - encapsulating the request in a data packet formatted for the protocol utilized by the system area network; and
  - sending the data packet to a requested node via the system area network fabric.

(emphasis added)

None of the cited art, whether taken alone or in combination, teaches or suggests that a request is received from a device using a protocol that is foreign to a protocol utilized by the system area network and the request is then encapsulated in a data packet formatted for the protocol utilized by the system area network. Actually, as will be shown below, the cited references actually teach an opposite methodology and thus, teach away from the features of the presently claimed invention.

The primary reference, Watson, is directed to a system for identifying a proxy that is geographically local to a client in response to receiving a request from the client, and then encapsulating requests from the client in a tunneling protocol at the proxy. The reason Watson uses a proxy to encapsulate requests in a tunneling protocol is so that an online service provider (OSP), which are also referred to as Internet Service Providers (ISPs), may fulfill data requests from subscribers and enable the OSP to maintain a certain level of control over the content delivered to its subscribers. Because unfettered access to the public Internet may compromise its proprietary nature, an OSP may prevent Internet servers from directly fulfilling requests from its subscribers. A subscriber thus may be required to communicate with a remote OSP even when the request could be satisfied by data stored on an Internet server local to the subscriber. By using a proxy local to the subscriber, an OSP that must communicate with a significant number of geographically dispersed subscribers from a centralized location can avoid the significant delays resulting from long distance communication and still buffer its subscriber from the public Internet.

While Watson teaches, in paragraphs 0004-0005, teaches that a request may be encapsulated in a tunneling protocol, Watson does not teach or suggest that the request is received from a device utilizing a protocol that is foreign to a protocol utilized by the system area network and does not teach encapsulating the request in a data packet formatted for the protocol utilized by the system area network. To the contrary, Watson teaches that the requests are received via the network 160 and thus, must use the protocol established for use by the network 160. This request, which is in a protocol used by the network, may then be encapsulated in a tunneling protocol.

Thus, Watson teaches the exact opposite of the features recited in claim 1. That is, Watson teaches to receive a request in a protocol that is used by the network and then encapsulate it in a tunneling protocol (which for purposes of discussion would be similar to a foreign protocol). To the contrary, the present invention as recited in claim 1 requires that the request be received from a device utilizing a protocol which is foreign to a protocol utilized by the system area network and then encapsulate it in a data packet formatted for the protocol utilized by the system area network.

The operation of Watson is similar to that described by the secondary reference, Jason et al., which teaches to encapsulate a packet, which is in a first network protocol that is used by the network 216, in a foreign protocol in order to establish a virtual private network. As is clearly described in column 6, lines 7-41 and shown in Figure 4, a data packet may be encapsulated with multiple levels of encapsulation, i.e. protocol headers, depending on the number of virtual private network tunnels that the packet must be routed through to go from the sender 202 to the receiver 210. Each level of encapsulation designates the endpoints of a particular virtual private network tunnel. These levels of encapsulation are stripped off as the encapsulated packet is sent through the network. It is this encapsulation that is referred to as "foreign protocol," i.e. a network protocol that is different from the protocol specified by the packet (column 4, lines 48-50).

Thus, in a similar manner as taught by Watson, Jason et al. teaches to encapsulate a packet that is in a protocol utilized by the network, in a foreign protocol. Again this is exactly opposite of the presently claimed invention as recited in claim 1 where a request is received in a protocol which is foreign to a protocol utilized by the system area network and is encapsulated in a data packet that is formatted for the protocol used by the system area network. Thus, any alleged combination of Watson and Jason would still result in a system in which a packet that is received in a protocol used by the network, is encapsulated in a foreign protocol. Therefore, even if Watson were combinable with Jason, *arguendo*, the result still would not be the invention as recited in claims 1, 24 and 47.

Furthermore, it would not have been obvious to those of ordinary skill in the art at the time of the present invention to modify the Watson and Jason references to arrive at the invention recited in claims 1, 24 and 47. That is, there is no teaching or suggestion in either reference to perform the exact opposite operations than those explicitly taught by Watson and Jason. Watson and Jason explicitly encapsulate requests/data packets, received in a protocol used by the network, in a foreign protocol in order to establish a private network tunnel. This is explicitly done in order to limit exposure of the information traveling between the endpoints of these systems to outside systems. There is no reason why one of ordinary skill in the art would disregard the actual teachings of Watson and Jason and actually encapsulate a request or data packet received in a protocol

that is foreign to the protocol used by the network, in a data packet that is formatted for a protocol used by the network. Watson and Jason actually teach away from performing such operations.

Independent claims 18, 41 and 64 recite similar features to that of claims 1, 24 and 47 in that these claims recite that the data packet that is received from the system area network fabric is formatted for a protocol used by the system area network and that the data packet contains an encapsulated foreign protocol transmission. Again, neither Watson nor Jason, either alone or in combination, teach or suggest a foreign protocol transmission being encapsulated in a data packet that is formatted for a protocol used by a system area network. Watson and Jason actually teach the opposite of this type of structure and there would be no reason to modify the teachings of Watson and Jason for the reasons set forth above.

In view of the above, Applicants respectfully submit that neither Watson nor Jason, either alone or in combination, teach or suggest the features recited in independent claims 1, 18, 24, 41, 47 and 64. At least by virtue of their dependency on claims 1, 18, 24, 41, 47 and 64, respectively, neither Watson nor Jason, either alone or in combination, teach or suggest the features of dependent claims 2-4, 8-17, 20-23, 25-27, 31-40, 43-46, 48-50, 54-63, and 66-69. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-4, 8-18, 20-27, 31-41, 43-50, 54-64, and 66-69 under 35 U.S.C. § 103(a).

In addition to the above, Watson and Jason, either alone or in combination, do not teach or suggest the features of dependent claims 2-4, 8-17, 20-23, 25-27, 31-40, 43-46, 48-50, 54-63, and 66-69. For example, with regard to claims 2, 25 and 48, neither Watson nor Jason, either alone or in combination, teach or suggest determining that two requests are to be kept in order and responsive to such a determination, a second data packet is sent to a requested node via the same virtual lane on the system area network fabric that the first data packet was sent through. The Office Action alleges that this feature is taught by Watson in paragraph [0041] which reads as follows:

In the implementation of FIG. 4, the OSP host complex 480 includes a routing processor 4802. In general, the routing processor 4802 will examine an address field of a data request, use a mapping table to determine the appropriate

destination for the data request, and direct the data request to the appropriate destination. In a packet-based implementation, the client system 405 may generate information requests, convert the requests into data packets, sequence the data packets, perform error checking and other packet-switching techniques, and transmit the data packets to the routing processor 4802.

While this section of Watson teaches that the client system may generate information requests, convert the requests into data packets, sequence the data packets, perform error checking, etc., there is nothing in this, or any other, section of Watson that teaches or suggests to use the same virtual lane for two data packets when it is determined that the two data packets are to be kept in order. All that Watson teaches is sequencing of data packets. Watson does not teach or suggest anything regarding a determination that two packets are to be kept in order or, based on such a determination, sending the data packets via the same virtual lane on a system area network fabric. Jason does not teach or suggest this feature either. Thus, despite the allegations made by the Office Action, the references simply do not teach or suggest the features of dependent claims 2, 25 and 48.

Regarding claims 3, 26 and 49, neither Watson nor Jason, either alone or in combination, teach or suggest that, responsive to a determination that a first and second request should be able to bypass the other, a second data packet is sent to a requested node via a second virtual lane on a system area network fabric. The Office Action alleges that this feature is taught by Watson in paragraph [0044] which reads as follows:

The proxy server 4806 also may act as a buffer between the client system 405 and the Internet 465, and may implement content filtering and time saving techniques. For example, the proxy server 4806 can check parental controls settings of the client system 405 and request and transmit content from the Internet 465 according to the parental control settings. In addition, the proxy server 4806 may include one or more caches for string frequently accessed information. If requested data is determined to be stored in the caches, the proxy server 4806 may send the information to the client system 405 from the caches and avoid the need to access the Internet 465.

While this portion of Watson teaches that the proxy server may check parental control settings and may cache frequently accessed information, there is nothing in this,

or any other, section of Watson that teaches or even suggests to use a second virtual lane on a system area network fabric to send a second data packet when it is determined that first and second requests should be able to bypass one another. There is not even a determination as to whether request should be able to bypass one another anywhere in the Watson reference. Jason does not teach or suggest this feature either. Thus, despite the allegations made by the Office Action, the references simply do not teach or suggest the features of dependent claims 3, 26 and 49.

With regard to claims 4, 27 and 50, neither Watson nor Jason, either alone or in combination, teach or suggest receiving a data packet at a host channel adapter, decoding the data packet to retrieve and interrupt, and interrupting the processor. The Office Action again alleges that these features are taught by Watson in paragraph [0041] which is reproduced above. There is not even the mention of a host channel adapter anywhere in either of Watson or Jason. Thus, there is no possibility that either reference teaches or even suggests a host channel adapter receiving a data packet. Moreover, there is nothing in any of the references regarding decoding a data packet to retrieve and interrupt and then interrupting a processor. All that paragraph [0041] of Watson teaches is that the client may generate information requests, convert the requests into data packets, sequence the data packets, perform error checking and other packet-switching techniques, and transmit the data packets to the routing processor. None of these functions are taught as having anything to do with a host channel adapter, decoding a data packet to retrieve an interrupt, or interrupting a processor.

With regard to claims 8, 31 and 54 neither Watson nor Jason, either alone or in combination, teach or suggest decoding a data packet to obtain a foreign protocol request. To the contrary, as discussed above, the foreign protocol encapsulates the request/data packet in both Watson and Jason. Thus, there is no need to decode the data packet to obtain a foreign protocol request; the foreign protocol portion of the data packet is readily available without decoding. Therefore, despite the allegations made by the Office Action, Watson and Jason, in actuality, do not teach or suggest the features of claims 8, 31 and 54.

Regarding claims 9, 32 and 55, neither Watson nor Jason, either alone or in combination, teach or suggest a host channel adapter, as previously discussed. Nowhere



in either reference is there any mention of a host channel adapter or using a host channel adapter to receive a request, encapsulate the request or send a data packet. Once again, the Office Action merely points to paragraph [0041] of Watson as allegedly teaching this feature but, again, there is no mention whatsoever in paragraph [0041], or anywhere else in Watson or Jason, anything having to do with a host channel adapter. Therefore, despite the allegations made by the Office Action, Watson and Jason, in actuality, do not teach or suggest the features of claims 9, 32 and 55.

With regard to claims 10, 33 and 56, neither Watson nor Jason, either alone or in combination, teach or suggest a target channel adapter. This time the Office Action points to paragraph [0042] of Watson as allegedly teaching a target channel adapter. Paragraph [0042] reads as follows:

The OSP host complex 480 also includes a proxy server 4806 for directing data requests and/or otherwise facilitating communication between the client system 405 and the Internet 465 through. The proxy server 4802 may include an IP ("Internet Protocol") tunnel for converting data from OSP protocol into standard Internet protocol and transmitting the data to the Internet 465. The IP tunnel also converts data received from the Internet in the standard Internet protocol back into the OSP protocol and sends the converted data to the routing processor 4802 for delivery back to the client system 405.

Nowhere in this section, or any other section, of Watson is there any mention of a target channel adapter. In fact, channel adapters of any kind are not referenced by either of Watson or Jason. As with the rejection of claims 9, 32 and 55, the Office Action seems to be pointing to apparently arbitrary portions of the reference that have nothing to do with the actual features recited in the claims. Thus, despite the allegations made by the Office Action, Watson and Jason, in actuality, do not teach or suggest the features of claims 10, 33 and 56.

Similar arguments to those set forth above with regard to claims 9, 10, 32, 33, 55 and 56 apply to claims 11, 12, 14, 15, 34, 35, 37, 38, 57, 58, 60 and 61. That is, neither Watson nor Jason, either alone or in combination, teach or suggest a target channel adapter or a host channel adapter, let alone the specific features of these claims that recite functions performed by the host channel adapter and target channel adapter. Thus,

despite the allegations made by the Office Action, Watson and Jason, in actuality, do not teach or suggest the features of claims 11, 12, 14, 15, 34, 35, 37, 38, 57, 58, 60 and 61.

Regarding claims 17, 40 and 63, neither Watson nor Jason, either alone or in combination, teach or suggest determining if a data packet contains a foreign protocol request and removing the foreign protocol request from the data packet. The Office Action, yet again, points to paragraph [0041] of Watson as allegedly teaching these features. Once again, there is nothing in Watson, including paragraph [0041], that teaches or suggests to determine whether a data packet has a foreign protocol request and then removing it. All paragraph [0041] of Watson teaches is that the client may generate information requests, convert the requests into data packets, sequence the data packets, perform error checking and other packet-switching techniques, and transmit the data packets to the routing processor. There is nothing in this paragraph that teaches or suggests determining if a data packet contains a foreign protocol request and then removing it from the data packet.

Thus, in addition to being dependent upon respective ones of the independent claims discussed above, the dependent claims recite specific features that are not taught or suggested by Watson and Jason. Accordingly, Applicants respectfully request withdrawal of the rejection of dependent claims 2-4, 8-17, 20-23, 25-27, 31-40, 43-46, 48-50, 54-63, and 66-69 under 35 U.S.C. § 103(a).

#### **IV. 35 U.S.C. § 103, Alleged Obviousness Based on Watson, Jason and James**

The Office Action rejects claims 7, 19, 30, 42, 53 and 65 under 35 U.S.C. § 103(a) as being allegedly unpatentable over Watson, Jr. (Pub. No US 20020026517) in view of Jason et al. (U.S. Patent No. 6,636,520), further in view of James et al. (U.S. Patent No. 6,108,739). This rejection is respectfully traversed for at least the same reasons as set forth above with regard to independent claims 1, 18, 24, 41, 47 and 64. That is, neither Watson nor Jason, either alone or in combination teach or suggest a request that is in a protocol that is foreign to a protocol used by a system area network being encapsulated in a data packet that is formatted for the protocol used by the system area network. James et al. does not teach or suggest this feature either and is merely used

to teach a PCI bus. Thus, any alleged combination of Watson, Jason and James still would not result in the invention recited in claims 1, 18, 24, 41, 47 and 64, from which claims 7, 19, 30, 42, 53 and 65 depend, being taught or suggested.

In addition, despite the allegations made by the Office Action, the specific features of claims 7, 19, 30, 42, 53 and 65 are not rendered obvious simply because James teaches a PCI bus. Claim 7, for example recites that the request that is received is a PCI request and is encapsulated in a data packet formatted for the protocol used by the system area network, i.e. a system area network protocol. Thus, claim 7 recites a PCI request within a system area network protocol data packet. None of the cited art, whether taken alone or in combination, teaches or suggests such a feature.

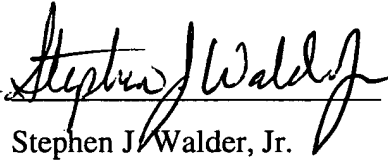
The mere mention of a PCI bus in James does not render obvious the features of claim 7. Both Watson and Jason are directed to sending data across a network that is external to the computing system, e.g. the Internet. James is directed to passing requests over a split-response bus, i.e. within a computing device. There is no reason why one of ordinary skill in the art would find it obvious to use the systems of Watson and Jason to transmit PCI bus requests since the requests being handled by Watson and Jason are not directed to particular PCI bus devices but are communications between different computing devices over an external network. Thus, despite the Office Action's allegations, claim 7 is not obviated simply because James teaches a PCI bus. Similar distinctions apply to claims 19, 30, 42, 53 and 65 which recite similar features to that of claim 7. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 7, 19, 30, 42, 53 and 65 under 35 U.S.C. § 103(a).

V. Conclusion

It is respectfully urged that the subject application is patentable over Watson, Jason and James and is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully submitted,

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